

**REMARKS**

This is in response to the Office Action dated September 7, 2004.

Applicant notes with appreciation the Examiner's allowance of claims 4 and 10.

Claim 1 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Lab1 in view of JP 06-112289. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

**First**, there is absolutely no showing of record indicating that the newly cited document entitled "*Physics 3 Spring 1989 – Lab 1 – Capacitance Measurements*" (Lab1) is "prior art" to the instant invention. Lab1 appears to have been found during a recent internet search by the USPTO – clearly performed well after the instant application was filed.

Importantly, there is no evidence indicating that Lab1 was "published" prior to December 12, 2000. Instead, Lab1 appears to have come from a lab notebook indicative of lab experiments performed at Dartmouth College – possibly in 1989. Such a lab notebook is not "prior art" to the instant application unless it was "published" or was a "printed publication" prior to December 12, 2000. Clearly, lab notebooks typically are not "printed publications" or "published" in the United States.

The USPTO has made no showing that this lab notebook (Lab1) was published prior to December 12, 2000 (the fact that it was available on the internet in 2004 is irrelevant). This new ground of rejection is fundamentally flawed because the USPTO has made no showing that Lab1 is "prior art" under any aspect of 35 U.S.C. Section 102.

In order to be prior art under Section 102(b), a reference must have been published more than one year before the U.S. filing date of an application. 35 U.S.C. Section 102(b). In the Office Action in paragraph 4, the Examiner states that the Lab1 document "is publication from a

US university for students to work a lab session, it is not a student notebook, therefore it is a publication and it is considered to be a prior art.” However, the Examiner does not address the crucial issue, namely, whether Lab1 is a printed publication under Section 102(b) (or a printed publication under Section 102(a)). Lab1 itself does not provide any type of publication date, and provides no evidence whatsoever that it was ever published or otherwise available to the public prior to applicants’ invention. The inclusion of “Spring 89” in the title of the Lab1 document is not an indication of a publication date, it is merely part of the title. Moreover, unsupported Examiner arguments are not evidence of publication.

Generally speaking, a document is published when it is made available to the general public. Section 2128 of the MPEP discussed printed publications in detail. Referring to Section 2128 of the MPEP, it is stated that:

Prior art disclosures on the Internet or on an on-line database are considered to be publicly available as of the date the item was publicly posted. If the publication does not include a publication date (or retrieval date), it cannot be relied upon as prior art under 35 U.S.C. 102(a) or (b), although it may be relied upon to provide evidence regarding the state of the art (emphasis added).  
M.P.E.P. § 2128.

In the present case, there is no evidence of any publication date for Lab1. There is clearly no evidence that it was published prior to the filing date of the instant application. Thus, as mandated by the M.P.E.P. above, Lab1 cannot be relied on as prior art under Section 102(a) or 102(b). The rejection based on Lab1 must be withdrawn for at least this reason.

Second, even if the newly cited Lab1 was "prior art" (which it is not), the Section 103(a) rejection using the same is incorrect for at least the following reasons.

To establish obviousness under Section 103, there must be a suggestion or motivation to make the proposed combination of references. As stated in M.P.E.P. 2141, “the Examiner bears

the initial burden of factually supporting any prima facie conclusion of obviousness. If the Examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness.” In order to establish a prima facie case of obviousness, “there must be some suggestion, teaching or motivation to modify the reference or combine the references on which the rejection is based.” M.P.E.P. 2142. Moreover, the evidence on which an obviousness rejection is based must be set forth in the Office Action. As stated in M.P.E.P. 2144.08 III, “explicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection . . . conclusory statements of similarity or motivation, without any articulated rationale or evidentiary support, do not constitute sufficient factual findings.” In the instant case, the Examiner makes mere conclusory statements which are not supported by any evidence of suggestion or motivation. Such conclusory statements do not constitute sufficient factual findings to support a Section 103 ground of rejection.

Moreover, combined references must teach all limitations of the claimed invention. This is not the case in the Examiner’s proposed Section 103 combination.

Kono discloses a non-contact measuring device and therefore teaches directly away from using a contact measuring scheme. Thus, one of ordinary skill in the art viewing Kono would not have been motivated to combined a contact measurement device (e.g., Lab1) with a non-contact measurement device as argued by the Examiner.

Lab1 in Fig. 3 shows that if C1 is known, then a voltmeter measuring V1 and V2 can be used to measure unknown C2 based on the voltage ratio between V1 and V2. However, Lab1 fails to disclose or suggest many of the features of claim 1, including measuring a MIS structure. Apparently recognizing this flaw in Lab1, the Office Action cites Kono.

However, Kono is insufficient for the reasons set forth in the Appeal Brief dated November 10, 2003, the disclosure of which is hereby incorporated herein by reference.

Moreover, one of ordinary skill in the art if measuring the MAIS structure of Kono would never have used a contact-type device because Kono teaches directly to the contrary. In particular, Kono teaches that one of ordinary skill in the art measuring a MAIS structure as in Kono would not use a contact-type device, thereby teaching directly away from the invention of claim 1. Yet another reason why the alleged combination fails is that Kono's  $V_{fbMAIS}$  is not a capacitance structure with known capacitance. Kono discloses a single MAIS structure (the MIS is an ideal or imagined structure calculated from measurements performed on the MAIS). Drawing 2 of Kono merely shows an equivalent circuit of the device when flat band voltage ( $V_{fbMAIS}$ ) is taken into account; i.e., the device still includes a single MAIS structure. The flat band voltage ( $V_{fbMAIS}$ ) of Kono is not a capacitance structure at all. Thus, the Examiner's contention that  $V_{fbMAIS}$  is a capacitance structure with known capacitance is wrong. Since  $V_{fbMAIS}$  in Kono is not even a capacitance structure with known capacitance, the reference cannot possibly disclose or suggest a capacitance structure serially connected to a MIS as required by claim 1. The single MAIS of Kono cannot have a capacitance structure with known capacitance serially connected to a MIS as required by claim 1. Kono is entirely unrelated to the invention of claim 1. The fundamental basis of the rejection is based on an incorrect interpretation of the cited reference by the Examiner.

Additionally, the MIS structure of Kono is hypothetical and calculated from the measurements performed on the MAIS structure. In other words, Kono discloses using a Metal/Air/Insulator/Semiconductor (MAIS) structure – but not directly analyzing any MIS structure. In this respect, Kono determines measurements using a MAIS, and then uses these

measurements to approximate what characteristics would be of a *hypothetical* MIS. This is because, as explained above, Kono's device is not capable of analyzing a MIS structure.

Accordingly, it can be seen that, contrary to claim 1, the device of Kono is not for analyzing C-V characteristics of a MIS structure having unknown capacitance. Furthermore, since Kono is actually measuring a MAIS (not a MIS), there cannot possibly be any serial connection to a MIS or measuring synthesis capacitance of a MIS as required by claim 1. Thus, it can be seen that even if the two references were combined as alleged in the Office Action, the invention of claim 1 still would not be met. This is because the alleged combination (which is incorrect in any event) would merely result in measuring a MAIS structure in a non-contact manner, which fails to meet the invention of claim 1.

Claims 7 and 8 also are clearly patentable. First, as explained above, Lab1 is not even prior art to the invention of these claims. Second, even if the two references were combined as alleged in the Office Action (which would be incorrect in any event), these claims still define over the cited art for the reasons discussed in the Appeal Brief dated November 10, 2003.

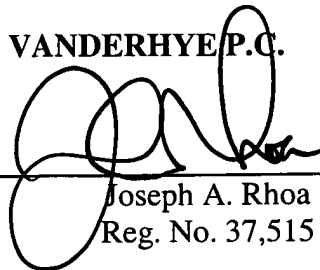
For at least the foregoing reasons, it is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

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Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: \_\_\_\_\_

A handwritten signature in black ink, appearing to read 'Joseph A. Rhoa', is written over a horizontal line. The signature is stylized with large loops and a long horizontal stroke.

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